

***DETAILED ACTION***

***Response to Amendment***

1. Receipt is acknowledged of the Preliminary Amendment filed on September 28, 2005.

**EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Herbert Larson (21,008) on 9/11/2008. The examiners amendment is required in order to remove indefiniteness and to define over the prior art.

The application has been amended as follows:

Claim 11 (Currently amended) A method for reading, by optical interference, a bar code extending in a direction at about a right angle [within a depth] to a surface of a substrate into a depth of the substrate, said bar code being represented by an area with marks in said substrate partly transparent to electromagnetic radiation, the steps of the method comprising:

- (a) illuminating said substrate with short coherence length light from a broad band light source;
- (b) dividing said light into reference and measurement light;

(c) returning said reference light and said measurement light back-scattered or reflected in said marking area into an analytical unit;

(d) determining a back-scattering power or a reflectivity of said substrate for all layer depths in said marking area from an interference of said reference light and said measuring light; and

(e) interpreting a result of said illuminating, dividing, returning, and determining steps as said bar code.

Claim 12 (Currently amended) The method according to Claim 11, further comprising the steps of:

(a) producing a spatial interference pattern in the analytical unit by superimposing said reference light and said measurement light;

(b) measuring light intensity distribution with a detection unit within the analytical unit; and

(c) determining a depth-dependent scattering power of said substrate through the use of an evaluating unit.

Claim 13 (Currently amended) The method according to Claim 11, further comprising the steps of:

(a) measuring a spatial, spectrally resolved intensity distribution with a detection unit within said analytical unit after superimposing said reference light and said measurement light; and

(b) determining a depth-dependent scattering power of said substrate with an evaluating unit.

Claim 15 (Currently amended) The method according to Claim 11, wherein the step of dividing said light into reference and measurement light comprises ~~the~~ a step of partially reflecting said short coherence length light in a pre-selected plane in an optical path of said short coherence length light directed onto the substrate.

Claims 19-20 (Canceled).

*Allowable Subject Matter*

3. Claims 11-18 are allowed. The following is an examiner's statement of reasons for allowance:

With respect to claims 11-18, the prior art or record, taken alone or in combination, fails to teach or fairly suggest at least a method for reading, by optical interference, a bar code extending in a direction at about a right angle to a surface of a substrate into a depth of the substrate, said bar code being represented by an area with marks in said substrate partly transparent to electromagnetic radiation, the steps of the method comprising:

(a) illuminating said substrate with short coherence length light from a broad band light source;

(b) dividing said light into reference and measurement light;

(c) returning said reference light and said measurement light back-scattered or reflected in said marking area into an analytical unit;

(d) determining a back-scattering power or a reflectivity of said substrate for all layer depths in said marking area from an interference of said reference light and said measuring light;  
and

(c) interpreting a result of said illuminating, dividing, returning, and determining steps as said bar code.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### *Conclusion*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAE W. KIM whose telephone number is (571)272-5971. The examiner can normally be reached on Mon-Fri 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve S. Paik can be reached on 571-272-2404. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Tae W Kim/  
Examiner, Art Unit 2887

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Primary Examiner, Art Unit 2887